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Rice, Tobacco, and Agricultural Globalization: Exploring the Narrative of the Chinese Agricultural Colony in Sub-Saharan Africa

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Abstract:

According to media outlets, China's involvement in the Sub-Saharan African agricultural sector is part of a colonial land grab to meet the needs of a modernizing China. This paper challenges this narrative by examining the two constituent narrative elements: 1) China actively purchases land or land rights to meet the food needs at home and 2) that this process has led to decreased food security for African states. Using Zimbabwe and Mozambique as cases, this paper demonstrates China's participation is not part of a long-term food security strategy and is better understood in light of the "Go Out Policy." However, this paper concludes that such interactions do have potentially deleterious consequences for food security of partner states.

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I. Introduction and Outline

I. a. Introduction

In 2012, Standard Chartered Bank published a report about Chinese food security. This report argued that within 30 years, China would need to import 100 million tons of grain per annum to meet domestic demand. Where, the report asks, will China look to meet its food security needs (Baynton-Glen, 2012)?

The answer was Sub-Saharan Africa, which should come as no surprise to anyone familiar with the popular narrative of China. The report suggests, somewhat tentatively, that while China currently has little interest in the agricultural wealth of the African continent, China's posturing implies future interest in the continent's potential for food production. While the paper is quick to dismiss reports that China is engaged in active "land grabbing," the report provides fodder to the idea that there is indeed a long-term strategy on the part of the Chinese for Sub-Saharan Africa (Baynton-Glen, 2012).

This report is by no means unique. Indeed, there is a wealth of academic and gray literature on the topic of China and the neo-colonial mission in Sub-Saharan Africa's agricultural sector, with a lively debate about the true nature of Chinese intervention on the African continent. In the popular media, the notion of China as colonial power is widespread; newspapers like the Guardian have chosen to view Chinese agricultural deals in a particularly problematic light. And this narrative of Chinese colonialism is not limited to the global north, where notions of zero-sum-gamesmanship and the decline of American power internationally go hand-in-hand with fears about China's activity in states like Nigeria or Zimbabwe. Web newspaper

aggregators like All Africa post countless news reports and op-ed pieces from newspapers in Sub-Saharan Africa about China's activity on the African continent, many which invoke the language of colonialism, or imply long-term Chinese interest in the continent as the panacea to future Chinese food issues.

Throughout this narrative, two elements are consistent. The first is that China is interested in Sub-Saharan Africa to meet demand for food back in China, and that as a result Chinese participation in Sub-Saharan Africa now is oriented to meet those goals. Secondly, is that Sub-Saharan African states will suffer as the result of these interventions by compromising their own food self-sufficiency.

It is a narrative that I believed at the outset of my research. My initial proposal for this project makes it clear that I sought to causally link increased Chinese participation in sub-Saharan African (SSA) agricultural production with decreasing food security for the Chinese state. I believed that my research would only serve to reinforce this belief. Much to my surprise, this has not been the case. Since I began this project in fall 2012, the thesis of this project has changed dramatically and now reflects a more nuanced understanding for the reasons and ramifications of Chinese participation in sub-Saharan African agriculture.

In this paper, I challenge the two aforementioned narrative elements. To the first point, I argue that China's involvement in Sub-Saharan agriculture is grossly misunderstood. The notion that "China" is purchasing land in Sub-Saharan Africa to meet domestic demand is either an oversimplification or fictionalization. The huge variety in programs, actors, and goals precludes the possibility of a Chinese state sanctioned colonial program with the intent of producing food exclusively for the

Chinese market. Instead, Chinese activity in Sub-Saharan Africa must be seen largely as the product of the Chinese Go Out Policy, complemented and complicated by a constellation of Chinese state initiated development projects. The high variability of largely private business ventures has led to extremely different impacts for partner states on a variety of scales.

To the second point, I argue that such Chinese interventions have had very mixed results for Sub-Saharan food security. While in many cases such interventions have led to extremely dangerous compromises on the part of small hold farmers, this is not inevitable. Indeed, I show that while intention and implementation are important, food-security is often difficult to achieve even when governments commit to the project explicitly.

In this paper, I show how the shift in Chinese government policy in favor of the Go Out model has led to increased activity in both Chinese government and business interaction with Sub-Saharan states and businesses. I use the cases of Zimbabwe and Mozambique to demonstrate the high variability in agricultural interventions. In the former, I show how private Chinese business actors have tacitly and actively encouraged production of high quality tobacco in Zimbabwe at the expense of other crops. In contrast, I demonstrate how Chinese state and business actors, at the behest of the Mozambican government, have been somewhat successful at improving domestic rice production to meet Mozambican demand.

I have chosen these two states to highlight the variation amongst Chinese agricultural interventions. These two cases demonstrate the high variability implicit in

an agricultural intervention: the actors, goals, crops, and infrastructures that are at play at a given point in time can result in vastly different outcomes.

This work is not intended to be a comprehensive survey of the variety of agricultural interventions in which Chinese actors and Sub-Saharan African actors engage. Instead, I see this study as an exercise in engaging dominant and counter narratives about China's action in Sub-Saharan Africa. By conceptualizing these interactions as occurring as part of a monolithic "land grab" on the part of the Chinese state through associated businesses, observers find themselves lumping together activities with vastly different actors, methods, and goals. This paints an at best incomplete and at worst incorrect picture of Chinese agricultural activity in SSA and serves to reinforce problematic notions of a zero-sum game in international agriculture.

This is not say that certain Chinese agricultural interventions have not been destructive to the livelihoods and economies in Sub-Saharan Africa. As I will show, elements of colonial style extraction are still alive in Sub-Saharan Africa. Indeed, this entire model can be construed as neo-colonial; Chinese businesses are indeed extracting either resources or capital from Sub-Saharan Africa. The fear of neo-colonialism should not be discarded, but currently the conventional wisdom about China obfuscates the truth.

This work is intended primarily to open space for future discussion by critically engaging narratives about Chinese interventions in Sub-Saharan Africa. I seek to make space for future research into this field by contributing a more complete and nuanced understanding of what exactly Chinese involvement in Sub-Saharan Africa actually means.

I.b. Outline

In Chapter II, I explain the reasons for selecting a case study model to argue my thesis. While case studies often used to make generalizations about the whole, my work avoids this tendency by drawing attention to the inconsistencies between cases. I argue that this is an effective method truly capable of demonstrating the dissonance between perceptions of Chinese agricultural activity in SSA and reality. I also show that the cases I have chosen are not outliers but instead represent part of a spectrum of interventions.

In Chapter III, I will situate my work in part of the broader canon of Chinese agricultural development literature. I argue that there are two conversations, one on the topic of the "land grab" and the other in regards to food security, which are best explored as interdependent but distinct in their goals and methods. My research attempts to stitch together several existing narratives about Chinese participation in sub-Saharan Africa. I demonstrate that many authors have similar concerns regarding the academy's and media's treatment of China as a colonizing force, but that all too often such authors have taken their conclusions too far by entirely rejecting the notion of agricultural exploitation. Instead, I demonstrate the need for a middle road, which neither supports the idea that the Chinese state is pursuing African agricultural land concession nor rejects the idea that Chinese interventions cannot by neo-colonial in nature.

In Chapter IV, I turn to the case of China. This section is divided into two parts. The first is an investigation of the state of the Chinese agricultural sector. I demonstrate that currently Chinese agricultural production models are unsustainable to meet long-

term trends in domestic demand. Additionally, I show how shifts in production might further complicate the state of China's food security. Thus, reports that China will increasingly need to import food to meet domestic demand are not unfounded. In the second section, however, I explore how Chinese government policy seems remarkably disinterested in ensuring domestic food security. While the government has encouraged nominal increases in production domestically, and has innovated a number of growing techniques, this has not been a priority. Additionally, and most important for this paper, has been the development and implementation of the Go Out Policy. With more and more Chinese businesses setting up shop internationally or investing in international ventures, this policy is of extreme import for conversations about Chinese business in Sub-Saharan Africa, especially when dealing with specialty agricultural goods.

In Chapter V, I introduce my first case- Zimbabwe's newly revived tobacco industry- explore historical agricultural production, Zimbabwe's unique colonial experience (namely its participation in the Green Revolution), and the country's reliance on agriculture post-independence. I also investigate the most recent economic collapse and the ways in which agriculture contributed to the collapse, as well as the ways in which agriculture has buoyed the economy as it moves forward. Situating tobacco as a somewhat unique agricultural good, I demonstrate how increased Chinese demand for high quality Zimbabwe tobacco has led to increased interaction between Chinese businesses and Zimbabwe farmers and wholesalers. I explore available data on non-tobacco production in Zimbabwe and demonstrate the increased reliance on tobacco as a cash crop in this recovering economy, at the expense of home-oriented food production.

In Chapter VI, I investigate Mozambican rice production. This case offers the opportunity to explore the ways in which a coalition of Chinese government officials, Chinese scientists, engineers and especially business actors, Mozambican government officials, and local Mozambican farmers are placed in dialogue or are excluded from acting upon changes in the rice sector. I demonstrate the unique history and consumption trends in Mozambique, explore perceptions of land utilization/underutilization, and note variety of local voices that have come out in support and against such a Chinese/Mozambican partnership. Mozambique has become perhaps the most highly explored case of Chinese agricultural intervention in Sub-Saharan Africa, making it fertile ground for careful dissection of both academic and gray literature on the matter.

In order to fully explore Mozambican rice production and Zimbabwean tobacco production, I compare and contrast the two cases in Chapter VII. I argue that while both are indeed cases of Chinese agricultural intervention in Sub-Saharan Africa, the differences between the two cases preclude the possibility of a single Chinese end-goal in Sub-Saharan Africa. I argue that in the case of Zimbabwe, Chinese intervention has led to agricultural products that are primarily destined for Chinese consumers and that this is to the detriment of local and national food self-sufficiency. Conversely, I show how Chinese participation has nominally improved domestic production of rice with the intention of reducing Mozambican reliance on Chinese rice; however, I suggest that such gains in production may not translate to improved food security in Mozambique. I note the variety of methods employed to promote agricultural production, the actors and the nature of their relationship, and the ways in which Chinese food self-sufficiency

is impacted by such actions. This comparison highlights the extreme variance in agricultural interventions and suggests that virtually any generalizations about Chinese participation in Sub-Saharan Africa agricultural production must be viewed with extreme skepticism.

It is with this skepticism that I offer my policy recommendations in Chapter VIII. I argue that while the current system is no doubt extremely lucrative for Chinese businesses, the current interaction stands to undermine the ability of African states to meet the consumption needs of their citizens. Without investment in replacement industries for the future growth of the economy while beating the drum of agricultural modernity and progress, Mozambique's situation is tenuous. As for Zimbabwe, I argue that without any sort of social net or crop insurance, smallhold farmers have been forced to make economic decisions that place their livelihoods at great risk and stand to jeopardize food security on both the local and national level.

To conclude, I argue in favor of more critical research on this subject and encourage more holistic understandings of both the reasons for and the consequences of Chinese agricultural intervention. Furthermore, I believe that there is increasing need for data collection on the part of researchers, institutions, and national governments on the specific nature of projects as well as the implication for these projects on food security. If the academic community is to fully understand what role China plays and will continue to play in the shaping of Sub-Saharan African agricultural and land policy, and the consequences this will have on local food accessibility.

II. Methodology

In order to address the issue of Chinese agricultural interventions in Sub-Saharan Africa, I have chosen to employ a case study comparison method as developed by Robert Yin (Yin, 2009). Yin argues that the case studies provide unique insight of a subject of research because they seek to answer questions of which other methodologies are incapable. He notes that the case study answers questions of "how" and "why" in regards to contemporary phenomena without demanding the researcher control for behavioral events (Yin, 2009).

Specifically, I employ a meta-analysis of available literature- academic, gray literature, and as presented by the media- pertaining to agricultural interventions. I selected the meta-analysis model due in part to the fact that I did not have the time or resources to perform research myself. However, the decision to pursue a meta-analysis was not simply one of expedience; such studies are effective at both investigating what is being talked about as well as how it is being discussed.

I note that while this paper does not utilize discourse analysis explicitly, it nonetheless informally integrates elements of this research method. Thus while I will discuss how certain vocabularies may be used in a specific situation, it is not the backbone of my research. I have chosen to use Berg's discourse analysis methodology when applicable (Berg, 2009). Berg's methodology attempts to create a standard research method for geographers by utilizing Foulcauldian discourse analysis as a point of reference. Berg proposed a seven-point methodology that compels researchers to examine specific discursive elements but provides no means metric for analysis (Berg, 2009).

In the context of my work, China is the research subject. In this paper, I explore the "how" of Chinese participation in sub-Saharan Africa by exploring two specific cases: Zimbabwe and Mozambique. The nature of the project(s), the sorts of actors involved, and the types of crops are all very much deserving subjects for study. However, the reasons why Chinese actors choose to participate in a case is no less deserving of attention. In fact, it is this question that guides much of my research; China's reasons for engaging in the sub-Saharan African agricultural system are a major point of contention and deserve careful appraisal.

It is for these reasons then that I have chosen the case study methodology. Specifically, I will be employing a multiple case study model, which allows for comparison of sets of phenomena. The comparison of phenomena allows researchers the opportunities to look for continuities across space and case. However, Yin argues that distinguishing phenomena from context is rarely easy. As such, the onus is on researchers to use their discretion in coming to conclusions (Yin, 2009).

The two cases I have selected, Mozambique and Zimbabwe, are by no means representative of all of the types of agricultural interventions that China is conducting in SSA. Indeed, the scale of projects, varieties of crops produced, actors, means of production, and consequences for state food security are highly variable. Mozambique was selected due to the fact that it has been held up by Horta as the classic example of Chinese agricultural colonialism in sub-Saharan Africa. It is thus useful as a subject for study independently and as a point of reference for all other Chinese agricultural colonialism in the continent (Horta, 2008).

I found that if indeed Mozambique is to be understood as the quintessential example of Chinese agricultural colonialism in the region, scholars should expect to see Chinese businesses active primarily in the creation and maintenance of agricultural products elsewhere on the continent. That none of the produce of such products schemes was destined for China complicates the notion that this is truly the most telling example of Chinese agricultural colonialism

Zimbabwe, geographically proximal but with a vastly different history of food security, provides perhaps the most fertile soil in southern Africa. I selected Zimbabwe as a case study when still under the belief that China was actively interested in turning southern Africa into a means of meeting consumer demand in China; Zimbabwe's historic capacity to produce grain seemed replicable given sufficient management and capital improvements. I expected to see Chinese participation in rebuilding the maize and wheat sectors following the fast track land reform policy. As I show, Zimbabwe has taken a radically different path, with Chinese businesses encouraging small hold farmers to produce high value tobacco.

I place my cases in dialogue with one another, highlighting key variations in stakeholders, crop types, goals and outcomes. This comparison allows for critical dissection of a projects component parts and affords the opportunity to critically dissect the ways in which an agricultural intervention is catered to fit within those constraints that exist beyond the control of its architects. In so doing, I paint the cases of Zimbabwe and Mozambique as neither comprehensive of the whole of Chinese agricultural intervention in SSA nor as statistical outliers but rather as evidence of the

lack of a single cohesive colonizing narrative. I show that Chinese interest in Sub-Saharan Africa differs widely state-to-state and project-to-project.

I must reiterate that this research is not intended to disprove the idea that China's participation in sub-Saharan Africa agriculture does not include colonial elements. Instead, I argue that Chinese agricultural interventions are primarily the result of business interest in burgeoning marketplaces, and that I have found no evidence of a consistent Chinese agricultural strategy for Sub-Saharan Africa.

III. Literature Review

III.a. "Land Grabbing," Partnerships, and Juridicial Neo-Liberalism

As I have noted before, there are two narrative elements that my research attempts to explore. The first – China's interest in setting up food colonies in Sub-Saharan Africa- has a much higher profile in the media because it is part of a broader narrative of the end of Pax Americana and the rise of China as a global hegemon (Kragelund, 2009). The academy and the media community are highly polarized on the topic. Newspapers like the Guardian and New York Times have published pieces highlighting Chinese land deals in nations like Mali (Vidal, 2012; MacFarquhar, 2010). These articles suggest that private businesses and government agencies have either purchased land for cultivation or have purchased the rights to the produce for protracted periods of time. The language of these articles can be quite aggressive, evidenced in Nile Bowie's recent piece for English language Russian news source RT titled "New Chinese President Xi aims to paint Africa red," which argued that China sought to ingratiate itself to African states through trade, aid, and direct investment in the most valuable sectors: primarily oil and minerals (Bowie, 2013).

Similarly, many scholars invoke the language of the "land grab," invoking the language of the "scramble for Africa" and the image of Berlin Conference participants dividing up the continent (see: Leahy, 2009; Carmody, 2011). This allusion to colonial imagery is not coincidence, but instead is indicative of how some scholars frame the current state of the African continent. Scholars like Leahy have argued that the acquisition of land rights, regardless of whether or not they were paid for, is functionally colonization (Leahy, 2009). Indeed, the notion that states like Saudi Arabia,

China, and even South Africa are purchasing concessions in parts of the African continent, and the ways in which some of these countries are treating local tenure rights to said land is uncomfortably similar to the colonial experience (Provost, 2012). Even when land is not purchased outright, the notion that rising developing states are either directly or indirectly shaping production practices in Sub-Saharan Africa has led some scholars to call foul (Williams, 2012).

The backlash to the notion of China as colonizer has been notable. Authors like Robertson and Pinstrup-Andersen have argued that though the prospect of land grabs is necessarily colonial, proper government and the inclusion of local stakeholders presents the opportunity for development (Robertson & Pinstrup-Andersen, 2010). Hall has suggested that the notion of the "land grab" is itself useful only as a call to action; she presents a schematic for more critical dissection of the nature of land deals (Hall, 2011). However, the tendency among authors in this camp is to suggest that instead of exploitation, China's participation in SSA agriculture has been a boon for these developing states. Fan et al. argue that it is African states have much to learn from China in regards to agricultural development, and that economic and educational partnerships are the key to poverty reduction and accelerating development on the African continent (Fan, Nestorova & Olofinbiyi, 2010).

Authors like Padraig Carmody have presented an intermediary path. Carmody's work, much of which has centered on mineral resource extraction, utilizes the language of neo-colonialism while challenging the notion that the Chinese government is

"directing all axes of engagement with Africa from above" (Carmody, 2011 pg 193).[1] Instead he suggests that businesses are increasingly acting as drivers of investment and development. Carmody implies that Chinese activity in Sub-Saharan Africa is distinct from previous colonial exercises primarily in that it relies heavily on the notion of globalization, which is predicated more heavily on "juridicial control" rather than direct control of land (Carmody, 2011 pg 192).

I argue that this distinction has been a major sticking point among scholars investigating the issue of Chinese agricultural intervention. While states like Saudi Arabia have been rather explicit in framing the land concessions they have collected in the Horn of Africa (which is much more in keeping with more traditional notions of land control), Chinese agricultural interventions have taken a number of forms and rarely involve the Chinese state directly (Hall, 2011). From large infrastructure projects to limited land concessions to direct trade, there is a lack of consistency in the way that China and Chinese businesses have dealt with states and local actors (Hall, 2011).

It is important to note that this argument is still predicated upon a "control" over land; functionally the debate revolves around whether contractual control can be conflated with tangible physical control over land. However, left out of this conversation are those cases where control of land is not compromised or complicated but foreign parties influence production methods as is evident in the case of Zimbabwe (see Chapter V). Carmody again makes room for this by suggesting the significance of

[1] Indeed, we often forget that mercantilism did not govern the European colonial interest in Sub-Saharan Africa, but instead that capitalism was de rigueur for virtually all colonial activity in the continent. Entire states were controlled by businesses, and such businesses were interested in extracting wealth from their concessions (see: Clarence-Smith, 1985; Roberts, 2001)

business as the primary actor in an increasingly globalized notion of neo-colonialism. As such, the notion of "control" by a foreign state is more complicated, especially as certain business choose to have more or less direct involvement in a particular agricultural activity (Carmody, 2011).

Thus, the fact that the Chinese government does not mediate all interactions between Chinese actors and Sub-Saharan African actors must be reiterated. As I show in my exploration of the Chinese Go Out Policy, the Chinese government serves primarily as an medium through which Chinese businesses can participate with international markets. So long as Chinese businesses are afforded a degree of freedom to make the best decisions for their bottom lines, the notion of a Chinese government operation to turn Sub-Saharan Africa into a massive agricultural colony demands a leap of faith. We are forced to reject the notion that all Chinese activity in Sub-Saharan Africa is necessarily either colonial or development oriented, but instead is in large part a reflection of market interests (Carmody, 2011).

III.b. Making Space for Food Security

The second conversation is much more the purview of the academic community and policy world. With the dramatic fluctuations in global food prices in the late 2000s and the growing threat of global climate change, food security or food self-sufficiency became explicit goals for many states. Land grabs have been construed by institutions like Standard Chartered Bank as a means of ensuring food security; that states like Saudi Arabia have signed long-term land deals is seen as evidence of a desire to promote food security (Baynton-Glen, 2012).

It is with this lens of global food zero-sum-gamesmanship that Horta made his claims about Chinese participation in the agricultural practices of sub-Saharan African states (2008). Horta argues the political necessity of ensuring a stable food supply for the future has driven China to seek spaces of agricultural underproduction, invest heavily to increase yields, and import these yields to feed Chinese consumers (2008).

Horta is not alone. Brautigam notes anecdotally that on several occasions she has had editorial boards question her work because it does not take into account this narrative of Chinese food security (Brautigam, 2012). This narrative is predicated upon the notion that food security is desirable and that China is incapable of meeting its needs through domestic production. As I demonstrate in Chapter IV, there is reason to believe that China is indeed actively importing more of its food to meet demand. Scholars like Garner have argued that changes in Chinese consumer interest have manifest in the need to provide new and varied commodities; this is supported by some data sets available from the USITC which show China continues to import increasing levels of soybeans (Garner, 2005; Okun, et al., 2011). Additionally, Muldavin, Chen, and Harris have all noted that Chinese agricultural land is increasingly degraded by production practices and pollution (Muldavin, 1997; Chen, 2007; Harris, 2008).

Critics of this line of reasoning have noted that while imports have indeed increased, the majority of Chinese agricultural imports come from the Americas. The United States, Brazil, and Argentina are the most significant agricultural exporters to China in terms of per annum sales (Okun, et al., 2011). And China shows no sign of cutting US imports; the value of US soybeans exported to China grew on average 32% annually between 2005 and 2010 (Okun, et al., 2011). Brazil and Argentina have

dramatically scaled up export potential with the intention of meeting Chinese demand (Okun, et al., 2011). Since 2005, Brazil's agricultural export value to China has more than tripled (Okun, et al., 2011). An examination of the list of top agricultural exporters to China reveals that no African state makes the list; the total value of all African agricultural exports is less than Brazil's export value (Okun, et al., 2011).

However, conversations on food security have also focused to those states within which Chinese businesses operate. While there is considerably less concern for states like the United States which have demonstrated significant agricultural potential and for whom the debate about food security does not put US consumers in direct competition with Chinese consumers, there are greater ramifications for states that are not food secure or are marginally food secure. In the African context, the conversation is in regards to whether African states necessarily compromise their food security by allowing Chinese businesses to participate in their agricultural sectors.

Fan et al. have argued that there are significant opportunities for capacity building if indeed African states are willing to learn from and work in partnership with Chinese firms. These authors note that the Chinese experience of a modernizing agricultural sector provides a serviceable roadmap for African states seeking to transition from rural/traditional livelihoods economies to modern, integrated, and competitive marketplaces (Fan, Nestorova & Olofinbiyi, 2010).

Of course, this is by no means a consensus opinion. Cotula el al. have argued that while certain partnerships can be extremely lucrative for small hold farmers, these partnerships are only mutually beneficent so long as they are highly regulated and attempt to situate farmers and businesses as equals. These authors note that the

presence of large plantation style agricultural production is typically a sign of extractive policies that have come at the consequence of small hold farmers (Cotula, Vermeulen, Mathieu & Toulmin, 2011).

III.c. Globalization and China

Conversations about "land-grabbing" and Chinese food security are more broadly situated in a large academic conversation about the ways in which China is participating in a global marketplace. Much academic work has centered on the dramatic economic reforms in China starting in the late 1970s. This process of liberalization has transformed China (as is evidenced in Chapter IV) from an isolationist state into a major player in the global economy (Wu, 2006). However, while initially liberalization was manifest in an opening up of the Chinese labor market for the manufacture of goods for the global north, increasingly scholars have focused on Chinese activity abroad.

China's role as a driver of globalization has been manifest in a variety of different ways (Carmody, 2010; Williams, 2012). As I will argue below, one of the most significant reasons for increased Chinese participation is due to Chinese policies that encourage businesses to invest in burgeoning market places. Most commonly, this has been in the form of mining and oil contracts and in the construction industry in the developing world; South America, parts of Central and Southeast Asia, and sub-Saharan Africa have been major regions within which Chinese firms invest (Carmody, 2010).

Additionally, Carmody notes that the form of globalization that China has pursued differs from more classical understandings of globalization in so far as the

majority of firms active in sub-Saharan Africa do so with the support of the Chinese state (Carmody, 2010). This is in part due to the Go Out Policy, explained in detail in Chapter IV, but also thanks to the nature of most Chinese enterprises; many of the Chinese firms active in the oil industry (which is currently the largest African economic sector in which Chinese firms participate) are joint private-public enterprises (Carmody, 2010). Carmody argues that globalization in the sub-Saharan African context is increasingly driven by Southeast Asian- and specifically Chinese- economic investment as Asian economies continue to grow at breakneck pace (Carmody, 2010). However, returning to the notion juridicialism, the form of globalization that China has pursued should not be conflated with a proto-capitalist or mercantilist economic system but rather one that simply complicates the relationship between business and government on the part of China (Carmody, 2011). In short, neither the Chinese state nor Chinese business have sought the direct control of non-Chinese territory for extended periods of time but rather have sought economic opportunities to invest.

Due to the reality that China and Chinese businesses have become among the most significant actors in sub-Saharan Africa and that the narrative of Chinese land grabbing in sub-Saharan Africa is predicated upon the inability of the Chinese state to feed itself, it is important to now make a careful appraisal of the Chinese agricultural and economic climate.

IV. Situating China

Before exploring the ways in which China is engaging in Sub-Saharan African agriculture, it is valuable to provide context for the state, its policies, and the role of consumers and businesses in food policy.

IV.a. Pre-1980s

China has long been among the most productive states in terms of agricultural output. Until comparatively recently, the various empires that ruled the territory that comprises modern China experienced only isolated instances of famine. China was a net exporter of grain into the early modern era (Keay, 2009). Much of this was to change however after the Communist revolution.

Though Mao embraced the significance of agriculture, the Great Leap Forward (1958-1961) proved to be a disastrous policy. The mass collectivization of peasant farms with the intent of increasing production of staple goods (specifically grains) failed for a variety of reasons (Peng, 1997). First, this policy coincided with a central government push for increased iron production; as such, huge numbers of peasant laborers were removed from farms and employed in smelting operations (Peng, 1997). This siphoning of labor was compounded by hyper-inflation of production statistics on the part of commune bosses (who were rewarded for "increased" production) who were then forced to send unsustainable amounts of grain to developing cities (Peng, 1997). Furthermore, China's desire to continue to be a net exporter of grain further exacerbated these systemic problems; in all grain production dropped 25% between 1958 and 1961 and estimates suggest tens of millions of people starved. It was only in 1961 that China allowed grain imports from Canada and Australia.

The reversal of the Great Leap Forward policies in 1961 allowed for more domestically oriented production and removed incentives for inflated production statistics (Peng, 1997). Indeed, this reversion in policy resulted in a deeply held notion of the significance of food self-sufficiency. Increasing agricultural production became a cause célèbre for the party; this sentiment was punctuated by Nixon's 1972 visit (Dernberger, 1980). While the visit served first and foremost to normalize relations between the United States and China, it had dramatic consequences for agricultural production. Green revolution technology, which had been largely off limits due to China's relative technological and political isolation, was highly sought after as a by means of improving China's ability to feed itself (Dernberger, 1980). Indeed, by the late 1970s and with the introduction of the Four Modernizations policy, China actively sought out Western technology to increase efficiency and capacity in all sectors of the economy. Grain production rebounded, but concerns about the long-term viability of the Chinese agricultural model persist (Dernberger, 1980). This preoccupation belies the significance of the Great Famine in the consciousness of both China and the West.

IV.b. 1980s- Present

The rise of China as an economic powerhouse has been the subject of tremendous amounts of scholarly research. Indeed, last 20 years of the 20th century were a time of tremendous Chinese economic growth. Predicated upon export-oriented manufacturing and policies that encouraged marketization, the Chinese economy quickly became the posterchild for neo-liberalism and globalization as western manufacturing jobs were transplanted to China. In response, large numbers of Chinese

laborers moved from rural regions to urban regions; this was compounded by the fact that many Chinese laborers where internally displaced by the conversion of historic farmland to industrial land (Brown, 1995; *Policy Brief: Agricultural Policy Reform China*, 2005).

Of particular interest to academics has been the rise of the Chinese consumer, the state of the regulated and unregulated food industry, environmental degradation, and the issue of Chinese food security (e.g.: Garner, 2005; Brown, 1995; Muldavin, 1997; Paull, 2008). While these issues overlap tremendously, I will explore each independently as they provide context for specific agricultural interventions elsewhere.

IV.c. The Chinese Consumer

The West has greeted the idea of a Chinese consumer class with fascination and fear. Consumption, especially conspicuous consumption, has been on the rise amongst the Chinese middle class over the past decade. These consumption habits, while reminiscent of Western consumption, are particularly oriented around food. The notion that for the first time many Chinese consumers are able and interested in purchasing meat products has led many agronomists and scholars in the field of environmental studies to sound alarm bells; the amount of meat necessary to meet demand puts increasing strains on grain and water supplies, while simultaneously leading to increased environmental degradation (Garner, 2005; Brown, 1995).

Another significant trend in Chinese consumption is the preoccupation with variety; the ability to purchase and consume a large number of types of foods is a status symbol (Jian & Xiaohan, 2003). However, while the trend amongst Chinese consumers

can be generally described as "more"-oriented, the increase in the number of food scares has also played a significant role in the way that consumers are purchasing food. Increasingly, consumers have come to understand that domestically grown and produced food carries a high risk (Zhang & Carmody, 2009).

IV.d. Agricultural Production and Regulation

Chinese food production and processing has come under increasing scrutiny by both domestic consumers and by the international community as a number of high profile food scares have left tens if not hundreds dead and thousands injured (Foster, 2011). Generally speaking, the state of Chinese agriculture can best be described as highly complicated and predominately unregulated. While increasingly government agents supervise farm production practices, the Chinese government does not monitor the majority of the produce that are destined for domestic and international market. This is especially true for fresh fruit and vegetables (Zhang & Carmody, 2009).

Though the vast majority of these goods are produced on small, family controlled farms, a number of large agro-businesses have become involved in domestic food production. The lack of oversight has resulted in less than ideal production practices on both small and large farms that have put in jeopardy both consumer and environment; that much of the rice destined for domestic market is contaminated with the heavy metal cadmium (deemed a carcinogen by California) is indicative of the unregulated production methods (Foster, 2011).

The dominant agricultural production model in China is based on green revolution technology, however such technology is not universally available. Small hold

farmers cultivate the majority of the nation's farmland; an abundance of labor affords relatively high yields per hectare but comparatively low yields per worker. The average farm as of 2005 was roughly .65 hectares. Irrigation is the most commonly available agricultural infrastructure available to small hold farmers, though fertilizers and pesticides are increasingly prevalent. Conversely, larger companies and state owned industries have encouraged and made use of petrochemical inputs and heavy machinery in larger farming operations. Indeed, currently the Chinese state provides subsidies for chemical inputs; China uses more fertilizer usage per hectare (280kg) than virtually any other country (*Policy Brief: Agricultural Policy Reform China*, 2005; Muldavin, 1997).

An important development for the Chinese agricultural sector has been the introduction of the Green Food Program (1992-present), which is functionally equivalent to the USDA Organic certification program. This program is run by the Chinese government and serves to certify produce and land that meet the three grades of food production: "safe," "green,"[2] and "organic" (Paull, 2008).

These three grades that the standards that produce must meet to receive such a grade were developed in partnership with the International Federation of Organic Agriculture Movements (IFOAM), a group that serves as an international regulatory

[2] Regulations for "green" certification are:
1. "Area should meet the highest grade of air standards in China."
2. "Heavy metal residues are restricted in irrigation, water and soil (tests for mercury, cadmium, arsenic, lead chrome, etc)"
3. "Processing water must meet the National Drinking Water Standard."
4. "Chemical applications are restricted and regulated, and some of the most poisonous herbicides are banned" (Paull 2008)

body for organic food certification programs. Some criticism has been leveled at the Green Food Program, suggesting that its initial partnership with IFOAM merely produced the "green" standard, which was to ensure that Chinese crops would be allowed into increasingly environmentally and health conscious markets (namely Japan and the EU). "Green" is deemed to be export quality for many states (though it is not a prerequisite for export as is evident Chinese grain exports to SSA), while the Green Food "Organic" label is recognized to meet international organic food standards (Paull, 2008).

While slow to take off, the program has over the past several years dramatically increased in production. 3.5 million acres are now certified organic, 28% of total arable land, and a number of states (namely Canada, Australia, and France) have sought and received certification for grain exports to China. Canada, one of China's primary suppliers of barley, had certified 6% of its barley through the Green Food Program (Paull, 2008).

While there is no doubt that France's, Australia's and Canada's interest in Green Food certification is predicated upon their interest in selling to Chinese consumers, there are questions about whether or not domestic Chinese production of Green Food certified foods are destined primarily for Chinese tables (Paull, 2008). The Program has emphasized both export-oriented production and domestic consumption of products. Advertising (through the governmental organization that runs the program, an extension of the department of agriculture) is primarily focused on urbanites in China (Paull, 2008). However, data suggests that much of the Green Food produce is destined for export, primarily to markets in Japan and the European Union (Paull, 2008).

One of the primary factors in driving Green Food exports is the cost of the "organic" certified produce. There is much to suggest that the cost of "organic" certified goods places it outside the reach of many middle class Chinese families; though the "green" certification is more manageable, it is still 3-4 times more expensive than "safe" or unregulated foodstuffs (Paull, 2008). As such, there is the very real risk that Chinese producers of Green Food Program certified produce have functionally removed the capacity up to 28% of the total arable land from China's domestic food production, giving credence to the notion that China needs to find new sources of food to meet consumer demand.

IV.e. Environmental Degradation

Another variable that continues to arise in conversations of domestic agricultural production is the notion of rapid environmental decline, especially in the most fertile agricultural regions in China. Industrialization continues to grow unchecked, and with limited emissions standards, heavy metals and smog fallout over agricultural land and choke ever-growing cities (Chen, 2007). The increased use of the automobile for commuting and as a status symbol as compounds emissions issues (Chen, 2007). Waterways are increasingly choked with industrial runoff. Of perhaps greatest concern is the decreasing soil quality in traditional agricultural bastions (Chen, 2007; Harris, 2008).

While the government has attempted to mitigate damage by ensuring that agricultural land is preserved, the scale of degradation compounded by the fact that it is

very hard to protect land for aerosolized contaminants has precluded the possibility of completely safeguarding agricultural production. Muldavin speaks to the ways in which the very nature of the agricultural production model, increasingly marketized since the 1980s, might be best understood as an exercise in soil mining. Indeed, the vast majority of current production is largely built upon exploitation of small laborers and the mineral value of the agricultural land (Muldavin, 1997).

While the Chinese population will likely shrink between now and 2050 (Demographic Overview - Custom Region – China, 2013), the total number of calories and nature of the diet of the average Chinese citizen today lead to concerns about China's ability to meet domestic demand within the current market conditions (Brown, 1995). Changes in consumer ability/willingness to pay top-dollar for "organic" produce in China, shifts in Chinese grain export policy to Sub-Saharan Africa, and a concerted effort at remediating soil conditions in the most fertile regions of China all hold the potential to alleviate concerns about food security in China. Increasingly China finds itself importing grain from the United States, Canada, and Australia (Hogan, 2013).

Concerns about Chinese food security are not misguided. The notion that China's agricultural capacity is currently being outstripped by demand is not inaccurate, and the fact that current agricultural practices in China have tremendous consequences for the long-term viability of Chinese domestic food production must be taken into consideration. And, while domestic agricultural production has been compromised by environmental and social forces (compounded by the strain of a consumer class) production methods have changed comparatively little to reflect these new realities.

IV.f. Government Policy on Domestic Agriculture and Consumption

As has been made clear, if food self-sufficiency were of utmost priority to the Chinese state, there are a great number of steps that could be taken that could rectify what currently amounts to a long-term unsustainable sector. Indeed, declining grain production in the early 1990s did lead to significant government action to buoy output, mainly through incentivizing small farmer production of grains by offering above market prices. The government also initiated a policy in 1995 to ensure that grain prices remain stable both nationally and within provinces through the sales and acquisition of grain. However, the International Food Policy Research Group notes that while this has proven effective to a certain extent, it has the potential to regionalize food self-sufficiency at the expense of broader society (Fan & Cohen, 1999).

However, this policy seems to be something of an anomaly. While the Chinese state did encourage farmers to grow more wheat in the late 2000s in order to alleviate the impact of the rise in global food prices, this has not been accompanied with sufficient training or remediation to improve soil quality or mitigate the impact of industrial pollution (Okun et al., 2011). Instead, the Chinese state has approached the issue of agricultural production from a liberal, market driven perspective. As has been suggested, companies- both Chinese and foreign- have been afforded considerable freedom to participate in the agricultural sector ("Enabling poor rural people to overcome poverty in China," 2004; Paull 2008). Muldavin notes this privatization has had very real consequences for soil fertility; while extractive production methods are not limited to the private sector, it is the private sector that has been the most significant culprit in the Chinese context (Muldavin 2000).

It is with the knowledge that the China's agricultural system is facing significant challenges in the form of increased demand and environmental crisis and that the Chinese government has shown only moderate interest in remediating such problems that scholars like Horta allege the Chinese state is becoming active in sub-Saharan Africa.

IV.g. The Chinese Government and the Go Out Policy

This tendency towards global capitalism is of course in part do to the liberalization of the economic policy in China. A complete history of the shift from the Communist model to the Chinese style capitalism that dominates the country today demands far more attention than this paper can give it, however several developments are significant to point out. During the late 1980s and early 1990s, the rise of the special economic zones in China resulted in huge increases in production and export value. Huge stockpiles of foreign currency were accumulated during this period, though the Chinese state continued to artificially devalue their currency. However, as international businesses increasingly participated in China, and as China transitioned towards membership in the WTO, the Chinese state felt increasingly that both private and state owned businesses were unprepared to participate in the international marketplace, and that this jeopardized their ability to compete in the domestic marketplace. Thus, in 1999, the Chinese state implemented the Go Out Policy, which seeks to encourage Chinese businesses and state owned industries to participate in international markets (Xu, 2011).

This policy has been remarkably successful in increasing Foreign Direct Investment (FDI) by Chinese businesses internationally. State owned businesses have in many cases led the charge; with greater access to foreign currency reserves and with the help of government apparatuses that serve as interlocutors between China and the partner state, such businesses have often followed Chinese government projects into new marketplaces. However, increasingly privately owned businesses are investing in international markets by finding sound business opportunities farther afield. The China Export-Import Bank (Chexim), a state owned bank, often provides capital in the form of loans or lines of credit to privately held Chinese companies seeking to enter into these new marketplaces (Chan-Fishel and Lawson 2007).

It is under the auspices of the Go Out Policy that many Chinese businesses are participating in Sub-Saharan Africa. Through construction ventures, mining operations, private equity and venture capital projects, and agriculture, both state owned and private enterprises have sought out African states and industries with untapped capital potential (Chan-Fishel and Lawson 2007). This preoccupation with developing markets is obviously not unique to the Chinese model; globalization has inclined virtually all businesses towards the developing world, where the cost of business is low. Chan-Fishel and Lawson note that many states have pursued similar investment/development programs in Sub-Saharan Africa and Carmody has written extensively on the subject (Chan-Fishel and Lawson 2007; Carmody 2011).

V. Case Study: Zimbabwean Tobacco Production

The first of my two case studies explores Zimbabwean tobacco production. I will provide a context for Zimbabwe, noting the colonial legacy as pertains to agricultural production, as well as the unique agricultural features of the state.

IV. a. History and Context

The area of modern day Zimbabwe has long been among the most fertile and interconnected regions in Southern Africa. Evidence of Iron Age trade routes that extended from Great Zimbabwe, capital of the Kingdom of Zimbabwe, to China and the Middle East is legion. A succession of dynasties maintained this tradition of international trade up until the colonial era; ivory and gold dominated the Zimbabwe's international export market while cattle dominated regional and local trade (Pikirayi, 2006). However, the maintenance of such empires was supported by substantial domestic agricultural production and by the gold deposits in the hinterland on the Zimbabwean Plateau (Pikirayi, 2006). There is much to suggest that the stability of the Kingdom of Zimbabwe rested in the hands of the farmers; some scholars have argued that the collapse of the Kingdom of Zimbabwe was at least in part predicated upon agricultural declines in the face of environmental change. Others argue that the collapse of the kingdom was the result of political inability to control the agricultural hinterland (Huffman, 2007).

The colonial era introduced a new set of actors to Zimbabwe. In 1889, the British South Africa Company (BSAC) under Cecil Rhodes was chartered and empowered to seize all territory north of the South African Transvaal. By 1900 and after a series of

armed conflicts, BSAC controlled all of modern day Zimbabwe, which they managed until 1924 under the name Rhodesia (Nelson, 1982).

The company like all colonially active European businesses primarily concerned itself with resource extraction. The BSAC had long viewed Rhodesian gold as the backbone of the company's business in the colony; speculation was rampant and estimates about gold production were widely inflated. When it became clear that the BSAC business model in Rhodesia was no longer fiscally viable, the company turned to other sources of revenue. Agriculture, specifically plantation style agriculture, was deemed to be the most viable source of company profit in the territory (Rowe, 2001).

What followed was a dramatic reshuffling of people and priorities. The company moved native reserves (akin to the "Bantustans" of South Africa) to those agriculturally poor sections of the state. Whites from South Africa and England were encouraged to move into the colony and settle newly vacant fertile veldt. Railroads were built to facilitate the transport of agricultural goods from the hinterland to cities. Additionally, the BSAC implemented a "hut tax" which compelled blacks living in native reserves to pay a cash tax; this served to compel many blacks to enter the white labor force, which theoretically provided cheap labor for enterprising white farmers (it should be noted that even with these laws, the colony was plagued by insufficient labor) (Rowe, 2001).

The BSAC encouraged those agricultural commodities with high international demand; tobacco was targeted as the most viable cash crop, followed close behind by cotton. While tobacco production in Rhodesia was initially plagued by the fickleness of the crop and by international market fluctuation (a boom and bust cycle persisted until well after the first World War), a group of powerful tobacco producers quickly came to

dominate both the economy and the management of the colony. In fact, prior to the end of company rule in Rhodesia in 1923, this tobacco cabal controlled the legislative apparatus of the colony (Rowe, 2001).

In 1923, control of the region was turned over to a Rhodesian white government. While this signaled the end of company rule, the transition to statehood did little to change the nature of economic activity in the state. Tobacco production dominated the economy. The post World War II years proved to be a time of great economic growth; the white population tripled between 1945 and 1970 as Brits migrated to participate in the agricultural boom. Similarly, displacement of blacks from surrounding states like the Congo to Rhodesia resulted in increased labor, further driving down production cost. During this time, Rhodesia became a major maize producer contributing to a state of food independence that persisted until the end of the 20th century (Nelson, 1982).

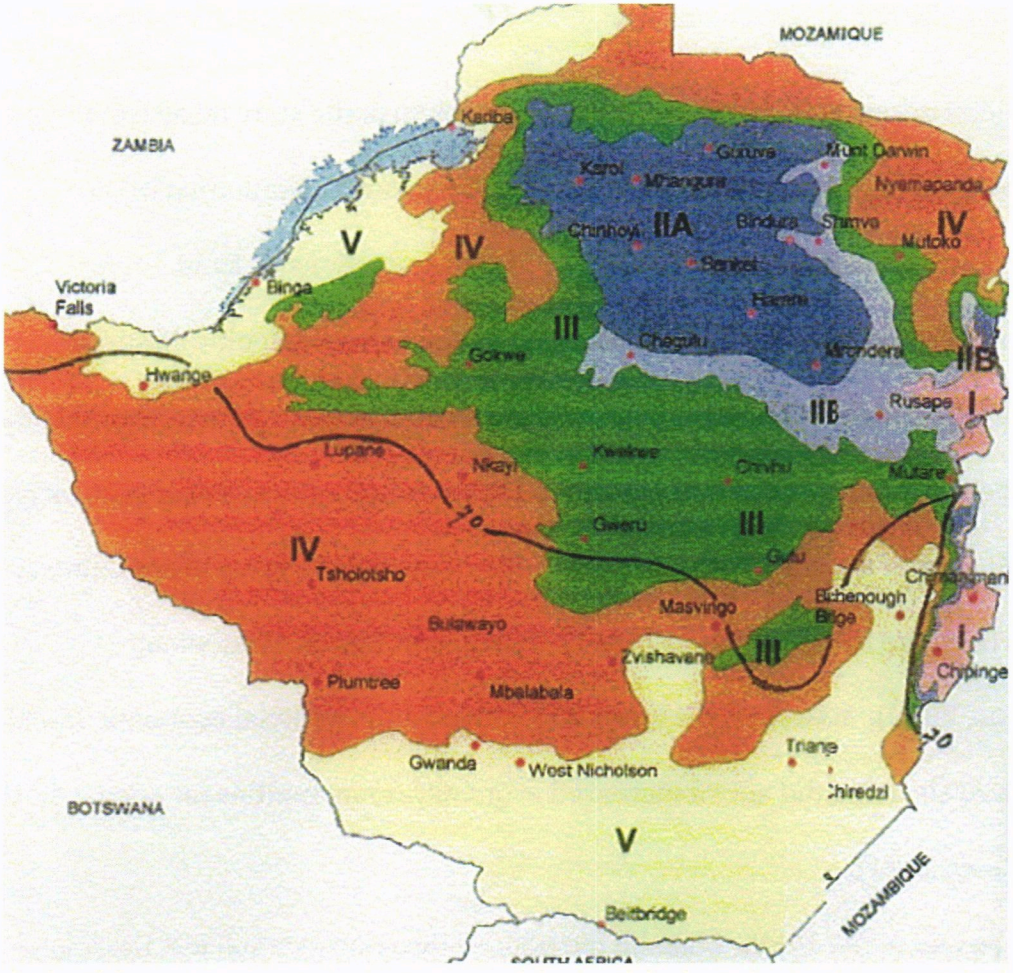
This notion of Rhodesia as Africa's breadbasket is important to the understanding of where the state is today in that Rhodesia was capable during this period to simultaneously feed itself, serve as the 4th largest exporter of tobacco internationally, and remained a leader in chrome mining (Nelson, 1982). While this was a period of intense oppression for black Rhodesians where virtually none saw the fruits of this wholesale exploitation of the country's natural resources, the state was nonetheless capable of producing massive amounts of agricultural goods for export without compromising domestic food independence (Nelson, 1982). It should also be noted that this method of production was predicated upon Green Revolution technology, which some argue is an inherently unsustainable system (Thompson,

2007). Regardless, such a period of massive agricultural production and stability was not to last.

Societal unrest starting in the 1960s began to push the state away from white rule and towards full representation. A guerilla war ensued, culminating in the Lancaster House Agreement in 1979 and the first free elections in 1980. Under President Robert Mugabe, the newly formed Zimbabwean state took a different approach to agricultural production. Prioritizing small-scale agriculture, the state did little to encourage large export oriented white farms despite the fact that such farms contributed 40% of the state's export value; 60% of the export value of agricultural goods was from the tobacco industry (2012 Investment Climate Statement – Mozambique, 2012). However, the loosening of some international economic sanctions following free elections did afford increased economic opportunities for some white farmers (Rowe 2001).

At the end of the 1990s, Mugabe introduced the controversial fast track land reform policy, dispossessing white farmers of their large land holdings and redistributing this land to poor rural blacks. This policy proved to be not only extremely controversial but also disastrous from an economic standpoint. White skilled labor fled the country, export oriented agricultural production functionally ground to a halt; this combined with a series of droughts led to a decrease in the country's total agricultural output by over 50%. The rest of this story is all to well known; the state's economy collapsed as hyperinflation led to absurd devaluation of currency (Clemens & Moss, 2005; Martens, 2012).

IV. b. Why Tobacco?



Map of "natural regions" of Zimbabwe. Those areas marked IIA and IIB are major regions of tobacco production, though production is now much more broadly dispersed, especially in region III ("Socio-Economic Impact of Smallholder Irrigation Development in Zimbabwe," 1997).

Tobacco production has been the most dominant cash crop for Zimbabwe thanks to the unique geography of the state and the nature of the crop.

Zimbabwe itself is somewhat unique among Southern African states in its agricultural resources. While veldt land is found throughout much of Southern Africa, soil quality in Zimbabwe, coupled with high rainfall and existing water sources, allows for typically higher yields than its neighbors. High veldt in the center and the north of the country

has long been among the most fertile regions for tobacco production, though increasingly the crop is grown elsewhere (Weiner et al., 1985).

That the state has long prioritized agricultural production has resulted in a built geography that informs modern crop yields. Large white owned farms demanded an infrastructure or both rails and irrigation (Weiner et al., 1985). This legacy of irrigation's role in the agricultural health of the state is evident in the government's department of agriculture: the "Ministry of Agriculture, Mechanization, and Irrigation Development." The mention of mechanization is also significant; while the government has attempted to promote small hold agriculture, the language of the Green Revolution continues to appear in official government texts[3].

IV. c. Tobacco as a crop

The BSAC initially chose tobacco as cash crop due to high international demand and the relative compatibility of the crop to growing conditions found in Zimbabwe. Additionally, the crop is well suited to plantation style agriculture and the monocropping model. While problems with market fluctuations and drought did exist, leading to boom and bust cycles in Zimbabwe during the first quarter of the 20th century, it was nonetheless a top-performing crop in Zimbabwe and soon became the backbone of the agricultural sector (Rowe 2001; Weiner et al. 1985).

Mechanization is common in most commercial tobacco operations primarily in the transplanting stage, however it is not necessary to yield high quality or uniform

[3] It must be noted that as of the writing, the Zimbabwean Ministry of Agriculture, Mechanization, and Irrigation Development website was a dead link due to the economic woes of the state. Cached versions of the site are available for reference.

results. Tobacco harvesting can be a resource-intensive process, requiring both space to cultivate seedlings and fields for harvesting, as well as labor and space for curing. While Zimbabwe during the early years of colonization faced a dearth of labor, this changed during the post-war era as blacks began working on large white farms. Not as heavily mechanized as other agricultural operations in Zimbabwe, the Zimbabwean tobacco industry until very recently made use of both cheap labor and some mechanical processes (Weiner et al., 1985).

The quality of the tobacco is tied to both the growing conditions and the knowledge of the farmer. The high veldt geography of the center and north of Zimbabwe is extremely conducive to the production of a variety of extremely high quality Virginia/flue-cured tobacco. However, growing conditions are not sufficient to guarantee quality; the curing process demands a skill set that in the case of Zimbabwe has traditionally been controlled by white growers[4]. Until recently, this has resulted in high value tobacco production on an industrial scale (Weiner et al., 1985; "Issues in the global tobacco economy: Selected case studies," 2003).

[4] Though Weiner et al. note that a number of small hold farmers produced tobacco of comparable quality to that grown on plantation in 1981-1982 (Weiner et al. 1985).

IV. d. 2009-Present: Tobacco Resurgence

YEAR	NUMBER OF GROWERS	AREA PLANTED (Ha)	MASS SOLD (Kgs)	YIELD PER HA (Kgs)	AVERAGE PRICE (USc/Kg)	RETURN PER HA (US$/Ha)
1990	1,493	59,425	133,866,041	2,253	261	5,871
1991	1,747	66,927	170,149,851	2,542	305	7,757
1992	2,604	80,070	201,161,921	2,512	162	4,071
1993	2,999	82,900	218,370,345	2,634	124	3,260
1994	2,338	67,417	169,218,196	2,510	173	4,331
1995	2,528	74,689	198,751,924	2,661	212	5,645
1996	2,917	81,348	201,630,567	2,479	294	7,294
1997	5,538	92,117	185,247,898	2,011	233	4,694
1998	8,304	95,613	215,983,208	2,259	172	3,896
1999	7,192	84,874	192,142,327	2,264	174	3,942
2000	8,531	84,893	236,715,481	2,788	169	4,713
2001	8,282	75,607	202,445,834	2,678	175	4,686
2002	13,400	70,500	165,726,119	2,351	227	5,330
2003	19,000	54,000	81,985,625	1,518	225	3,416
2004	12,700	41,000	68,784,658	1,678	200	3,353
2005	31,000	55,000	73,456,982	1,336	161	2,151
2006	15,800	45,000	55,466,979	1,233	202	2,490
2007	20,000	50,000	70,467,987	1,409	237	3,337
2008	28,000	48,000	48,321,990	1,007	321	3,232
2009	20,000	45,000	57,722,483	1,283	298	3,823
2010	51,000	67,000	123,458,799	1,843	289	5,325
2011	58,000	70,000	132,434,585	1,892	273	5,165
2012	68,000	75,000	144,505,678	1,927	365	7,033
2013E	75,000	83,000	165,000,000	1,988		

This dataset is available from the Zimbabwean Tobacco Association, which provides the best data on tobacco growers in the country ("Zimbabwe national flue cured statistics 1990-2013," 2013). This is especially true given a complete lack of reporting from any Zimbabwean state agency.

Since 2009, the Zimbabwean economy has slowly begun to recover. Part of this success is related to the government's adoption of the US dollar as official state currency, which has served as a stable means of exchange for this state. In turn, the resurgence of the agricultural sector has played a significant role in providing products for export. As always, the charge has been led by the tobacco industry.

Tobacco production in Zimbabwe since the fast track policy has changed dramatically. With the dissolution of large industrial farming operations, increasingly

the onus of production is on small hold farmers and farming cooperatives on land seized from white farmers. This decentralization of tobacco production has not only reduced total yields, as few small hold farmers utilize monocropping techniques, but also higher variability in quality (Weiner et al., 1985;). The use of machines in the production of tobacco all but has ceased entirely. Nonetheless, even with these changes Zimbabwean tobacco is still held up as among the highest quality in the world (Shryock, 2012).

Internationally, the face of tobacco consumption and production has changed radically. The decline of cigarette smoking in the West thanks to widespread government antipathy to the industry led to fears among the tobacco industry that the market was dead. However, the rise of cigarette smoking amongst citizens of rising middle-income states like China has opened up new markets for growers and manufacturers. A nascent tobacco industry has emerged in China over the past 20 years, and production has been rapidly scaled up. However, such tobacco is of notably low quality. As such, Chinese cigarette manufacturers have begun to look elsewhere for high quality tobacco to add to cigarettes to improve flavor. While many tobacco producers seek to enter the Chinese market, Chinese manufacturers have actively sought out Zimbabwean tobacco (Shryock, 2012).

Since 2009, Chinese imports of Zimbabwean tobacco have steadily grown. In 2012, China imported 40% of Zimbabwe's total tobacco production and was the number one importer of Zimbabwean tobacco that year. While total exports remain below pre-land reform rates, market forces and participation by Chinese business

interests have caused Zimbabwean farmers to prioritize tobacco production (Shryock, 2012).

While historically this system has been limited to the purchase of tobacco leaf at auction, Tianze Tobacco Company signed contracts with 250 Zimbabwean tobacco farmers. Tianze provides inputs and capital and purchases this tobacco at above market rate, however some farmers have claimed this is still to low given the quality of the tobacco. Twelve other companies were granted the right to contract directly with farmers for the 2011 growing season ("Zimbabwe tobacco farmers hail support from Chinese firm," 2012).

Even in those cases where farmers are not directly contracted to work with Chinese firms, tobacco has dominated the recovery economy as virtually the only cash crop of value. Farmers have responded by prioritizing tobacco. Between 2000 and 2012, over 60,000 new small hold farmers registered with the Zimbabwean government to grow and sell tobacco, a seven-fold increase in the total number of farmers participating in tobacco production. While these farmers are not exclusively participating in tobacco production, and this figure does not speak to the total amount of tobacco produced but rather to the number of growers, it nonetheless suggests the role that Chinese demand plays in encouraging agricultural activity (Zimbabwean national flue cured statistics 1990-2013, 2013)

Many industry watchers argue that further growth is inevitable. Currently, one of the largest obstacles facing the Zimbabwean tobacco industry is a lack of capital to finance production. As the country continues to experience economic sanctions regarding foreign direct investment imposed by the United States and its allies, few

lines of credit are currently available for farming. However, China maintains no such sanctions against Zimbabwe, which opens up the opportunity for FDI in the tobacco industry. The participation of Chinese firms in the tobacco contract industry indicates that Chinese tobacco companies are actively partnering with Zimbabwean growers.

At the time writing, the 2013 tobacco-selling season was underway in Zimbabwe. While early reports suggest that South Africa and UAE have eclipsed China as the number 1 and 2 purchasers of Zimbabwean tobacco by volume and total value, Chinese interest has by no means diminished (Ndlovu, 2013). In fact, China's interest in Zimbabwean tobacco seems to have become more specialized; Chinese purchasers paid the 3rd most for Zimbabwean tobacco bales in 2012, suggesting that Chinese tobacco buyers are interested in higher quality tobacco than South African and UAE buyers. This is in keeping with Chinese interest in Zimbabwean tobacco; not as a replacement for Chinese tobacco, but as a means to improve overall quality of Chinese cigarettes by imparting additional flavor ("Tobacco exports to China top US$40m," 2012).

IV. e. Consequences to Zimbabwean food independence

As international demand for Zimbabwean tobacco rises, and as more small hold farmers seek to enter this market, the risk of overreliance on a single export and the potential for compromising domestic food security become cause for concern. Zimbabwean agriculture has long rested upon the strong performance of its tobacco in the international marketplace, however less than a century ago Zimbabwe experienced the consequences of such an economic model (Rowe, 2001). While the boom and bust cycle of the 1920s and 1930s did nothing to dissuade tobacco production long term, it

does provide ample warning for such a system today. Compared with the 1920s, the state is arguably in even worse shape as it attempts to navigate out of the worst national economic collapse in recent memory while still facing economic sanctions on the part of the US. While tobacco is by no means the only export from the country, it represents 10% of total GDP and 20% of all export value, double the value of all other agricultural exports combined (Ndlovu, 2013).

Similarly, increased incidence of drought and the risk of monocropping has led to concerns that a year with less than average rain or a tobacco blight might decimate this recovering economy. Even a growing season that results in less than top quality tobacco could result in a catastrophic hit to the economy; low quality tobacco is produced all over the globe, including in China, and a low quality Zimbabwean tobacco would be worth very little. Representatives from the Zimbabwean Tobacco Industry and Marketing Board have compelled farmers to focus primarily on quality over quantity of tobacco ("Tobacco exports to China top US$40m," 2013).

Increased tobacco production has also resulted in reduced production of domestically valuable agricultural goods. Prior to the fast track land reform, most large white farms were producing cash crops for the international market. However, some large farms, along with the majority of small hold farms, were involved in the production of foodstuffs for the domestic and regional market. Maize and wheat, along with a list of fruits and vegetables, were produced specifically for Zimbabwean consumers; Zimbabwe enjoyed unusual food independence (Weiner et al 1985). However, as suggested earlier, fast track land reform decimated all agricultural production. Estimates suggest that this policy halved total yields within the country. In

part, this was due to a re-orientation of production; land redistribution greatly increased the number of acres devoted towards subsistence agriculture. However due to decreased mechanization and remarkable political and economic instability, as well a number of terrible droughts, the country was forced to import substantial amounts of grains to meet demand (Special Report: FAO/WFP Crop and Food Security Assessment Mission, 2009).

As the demand for tobacco has increased, more and more farmers have become involved in the production of tobacco; decreasing attention has been placed on maize production ("Tobacco revenue surpasses $110m," 2013). Measurements of non-tobacco agricultural products are difficult to come by, but Zimbabwe remains a net food importer. This appears to be the new norm for the state. While projections for the tobacco sector are unreliable, international demand is still high. Zimbabwe's production of tobacco is only now reaching pre-land reform levels, and there is much to suggest that this sector still has much room for growth. So long as this sector grows the way it has, Zimbabwe's food security remains in flux.

VI. Case Study: Mozambican Rice Production

To the east of Zimbabwe lies Mozambique. Faced with a distinct colonial history, a vastly different natural and built geography, and a les opaque relationship with China, Mozambican agriculture today provides a counterpoint to that of Zimbabwe.

VI. a. History and Context

Bantu people first arrived in what is today Mozambique between the 1st and 5th century. Displacing indigenous San bands, these Bantu participated in subsistence agriculture. Unlike Zimbabwe, Mozambique does not have as storied a history of great kingdoms, however the presence of Arab traders starting around the turn of the first millennium CE dramatically changed the face of Mozambican culture and its historical trajectory. Islam became a majority religion during this period and trade soon became a dominant economic activity. By the time Portuguese adventurer Vasco de Gama arrived in region in 1498, trading settlements dotted the coast and outlying islands (Huffman, 2007).

Portuguese activity in Mozambique between 1498 and the late 1800s was limited to the founding of several small settlements. While it should be noted that Mozambican land was leased to Portuguese businessmen for the purpose of tax collection, virtually no material resources were removed from the state. Furthermore, though Portugal claimed the territory as a property of Portugal the crown largely ignored the territory (Clarence-Smith, 1985).

This changed in 1891 when control and management of Mozambique was turned over to the Mozambique Company. As part of a 50-year lease, the company was deeded control of the territory and its inhabitants. This company, though headquartered in

Portugal, was funded and run by English capitalists, who utilized Mozambique's population as an additional labor reserve for English colonial interests elsewhere in Southern Africa. While much of the value of this contract was in the labor rights of Mozambican men and women, the country itself proved to be a valuable piece of real estate thanks to the soil quality in the north and its coastline (Clarence-Smith, 1985).

The Mozambique Company made use of the abundance of labor and agricultural resources to grow cotton in the country. Utilizing a system of concessional labor, the company mandated that black Mozambicans produce cotton and sell to the company at vastly reduced rates. This did much to compromise production of all other agricultural crops (the labor lost to the concession system cut into time working on home farms) and grossly depleted soil quality (Roberts, 2001; Clarence-Smith, 1985).

Following the end of the contract and coincidentally World War II, Portugal assumed control of the territory and declared it a province of Portugal (Roberts, 2001; Clarence-Smith 1985). A large contingent of Portuguese travelled to Mozambique between 1945 and 1973, however this Diaspora was short lived. A war for independence, instigated in 1964, eventually resulted in Mozambican independence in 1975. Independence led to civil war; between 1977 and 1992 the country was wracked by internal conflict, which displaced almost 6 million citizens.

Free elections in 1994, following UN occupation, finally put to rest the civil conflict. Though the political situation has slowly settled down, the state of the Mozambican economy is far less stable. Economic growth has been a high 8% per annum even during the most recent economic downturn, however the country still experiences crippling poverty. It should be noted that it was in the post elections years

that the Mozambican state divested itself of as many as 1200 state owned enterprises, primarily in the transportation and service provision sector (namely water) ("2012 Investment Climate Statement – Mozambique," 2012).

The vast majority of economic activity in Mozambique revolves around the agricultural sector. As the Portuguese did little to encourage investment in agricultural infrastructure, and the roughly 30 years of on-and-off armed conflict prevented any large scale farming ventures between 1964 and 1994, agriculture in Mozambique is almost exclusively characterized by low tech, small scale agriculture. And, while the agricultural sector represents just over one quarter of the total value of national GDP and 80% of the labor force, Mozambique is still a net food importer, primarily purchasing rice, wheat, and maize ("Nutrition country profiles summary: Mozambique," 2010).

That Mozambique is a net food importer speaks in large part to the nature of agricultural production. Of the 36 million arable hectares available in Mozambique, perhaps 10% is actively cultivated, or roughly 3.9 million hectares. 80% of agricultural activity is exclusively subsistence oriented, and only one third of all small hold farmers sell any agricultural outputs[5] ("Report No. 32416-MZ: Stimulating Smallholder Agricultural Growth," 2006).

It is important to note just how many people participate in some form of agricultural activity. 80% of the work force, or roughly 3.2 million farmers, are engaged in the agricultural sector. Virtually all of these farmers have no access to chemical

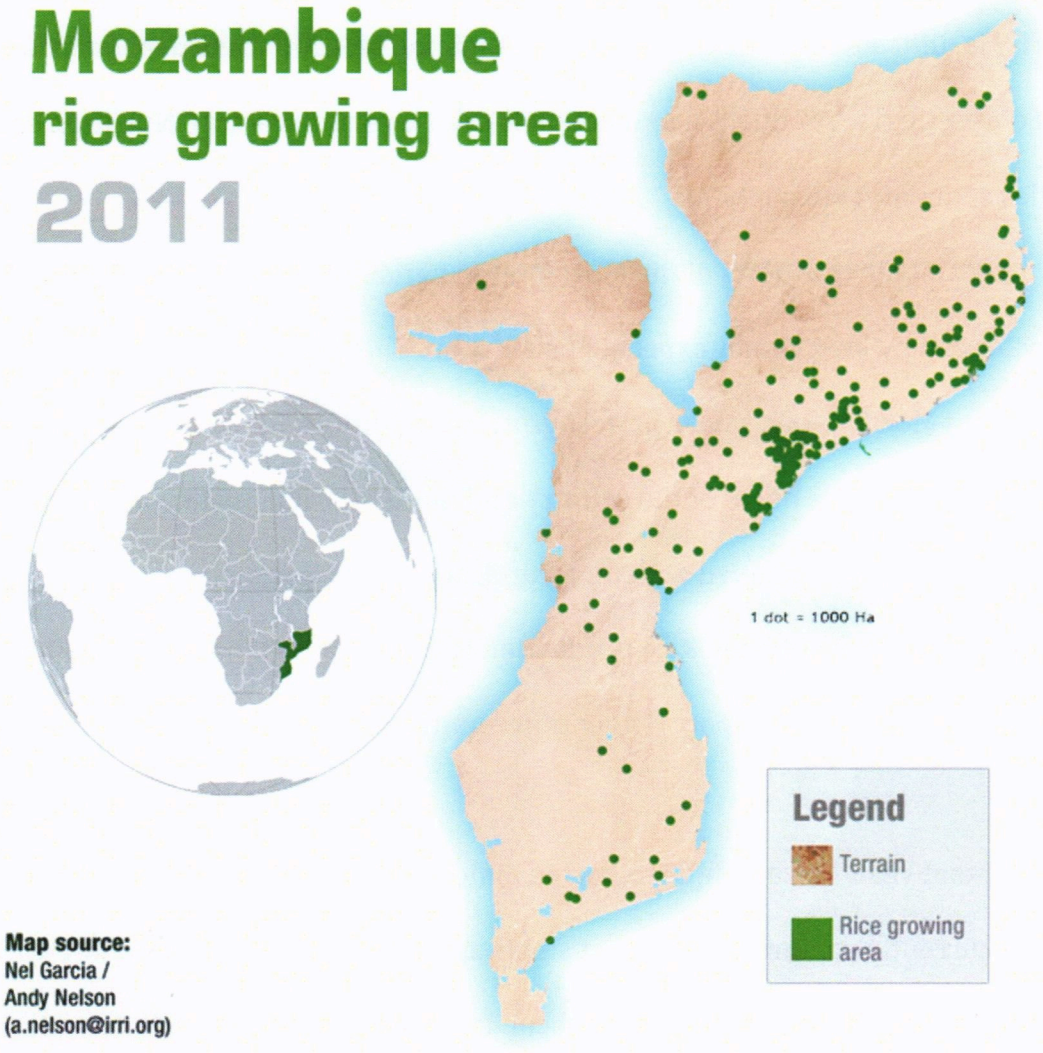
[5] It should be noted that the remaining arable land is not unused, but rather serves an import function in providing firewood, additional agricultural goods (via limited public permaculture), and grazing/pastoral land for flocks of cattle and sheep.

inputs, machinery, or irrigation. Farms are small, roughly 1.2 hectares, and women dominate agricultural production. Almost all small hold farms utilize traditional agricultural methods and traditional crops ("Report No. 32416-MZ: Stimulating Smallholder Agricultural Growth," 2006).

Food analysts have long suggested that Mozambique's agricultural system consistently underperforms its potential ("Report No. 32416-MZ: Stimulating Smallholder Agricultural Growth," 2006). The iteration of small hold agriculture present in Mozambique rarely affords enough for families to subsist; as many as 2/3 of all small hold farmers are characterized as food insecure and 40% of the total population is undernourished ("Nutrition country profiles summary: Mozambique, 2010"). Due to the nation's geography, Mozambican farmers are extremely susceptible to drought and flood. Only 3% of the arable land has been properly irrigated, and currently production is entirely reliant on increasingly variable wet seasons ("Nutrition country profiles summary: Mozambique, 2010; Mozambique Factsheet, 2007"). While maize has proven to be a somewhat drought resistant crop, pests and blights systemically plague agricultural production in Mozambique. Tropical storms have also decimated crops, most recently in 2007. Compounding the problem of underproduction is the high variability of growing conditions across the country, which prevents a one-size-fits-all agricultural policy ("Mozambique Factsheet," 2007).

However, many view such metrics as less a call for despair than an opportunity for growth. Current yields on agricultural land in Mozambique are half of neighboring states yields; even modest technological improvements stand to double current agricultural production, especially in the fertile north. Mozambique stands on a

precipice; according to the World Bank, a relatively small investment in infrastructure would radically change the state of agricultural production ("Report No. 32416-MZ: Stimulating Smallholder Agricultural Growth," 2006).



Map of Mozambican rice production. This study is primarily interested in rice production in the south, where the majority of Chinese businesses are active (*Rice in Mozambique*, 2013).

VI. b. Rice Production

Rice is seen as part of the constellation of staple grains in the Mozambican diet. While maize, wheat, and sorghum also play a role in helping meet the caloric needs of Mozambicans, rice has long been perhaps the most significant grain in Mozambican subsistence agriculture. While measuring the reliance on rice regarding a family's food security is difficult, it seems that perhaps 3.1 million Mozambicans depend in large part upon domestic rice production to meet their caloric requirements ("Nutrition country profiles summary: Mozambique," 2010).

Like all other aspects of the Mozambican agriculture, rice production is characterized by lower-than-expected production. This is especially problematic, considering Mozambique's near perfect growing conditions for rice. Blessed with a tropical climate in the north of the country and more than adequate water resources, environmental issues coupled with underutilization of irrigation have hamstrung the rice industry in Mozambique. Rice production in 2011 was estimated at 125,000 tons, with no rice destined for export ("Nutrition country profiles summary: Mozambique," 2010).

In that year, Mozambique imported almost 400,00 tons of rice per annum. Rice imports currently comprise the largest single agricultural commodity import for Mozambique, outstripping maize and wheat. Domestic demand has for some time now outstripped domestic production, and farmers currently consume the vast majority of their rice. However, domestic production potential seems poised to make up that differential ("Nutrition country profiles summary: Mozambique," 2010; *Rice in Mozambique,* 2013).

A number of actors, both internal to Mozambican and international, have taken upon themselves to activate this agricultural potential. Most notably for many scholars has been the interaction between Mozambican actors and Chinese actors. In virtually all cases, these deals are based upon building agricultural capacity in Mozambique; whether the project is building and managing an irrigation project, providing agricultural training for small hold farmers, or introducing new varieties of rice, Chinese actors serve to build domestic capacity ("Mozambique: Chinese technology to increase rice yields," 2011; "Chinese government to fund repairs on two irrigation systems in Mozambique," 2012; "Irrigation management company in Mozambique seeks Chinese partner," 2012).

For both Mozambique and China, public and private/corporate actors are engaged in the process of capacity building. In the case of the Lower Limpopo Irrigation Scheme, a Mozambican state owned project, government representatives are currently looking to partner with a Chinese firm with the hopes that they will manage and upgrade the irrigation scheme ("Chinese government to fund repairs on two irrigation systems in Mozambique," 2012; "Irrigation management company in Mozambique seeks Chinese partner," 2012). Similar relationships, where Mozambican state irrigation projects have contracted with Chinese firms, have resulted in dramatic increases in production, with per hectacre rice yields at up to 10 on specially cultivated Chinese test plots ("Mozambique: Chinese technology to increase rice yields," 2011).

The majority of Chinese firms managing water projects and irrigation schemes has taken place in the south of Mozambique, where a long running partnership between the Gaza provincial government of Mozambique and the Hubei provincial government

in China has facilitated such interactions. A collaborative Chinese business and Mozambican government-run irrigation project in Ponela, Mozambique, has been used as both an agricultural extension service and an operating farm. The project, which currently comprises 11,000 hectares, incorporates both commercial farming (which in this case are primarily owned and operated by Chinese firms) and subsistence farming. The Mozambican government has encouraged agriculture students to take apprenticeships with Chinese firms and technicians in this project to "assimilate Chinese rice production techniques." It seems that much of Mozambique interest in such agricultural projects is the potential for local replication elsewhere in the country ("Mozambique: Chinese technology to increase rice yields," 2011; "Chinese entrepreneurs invest us$250m in Mozambique agriculture," 2012).

Chinese firms have actively invested money to revive unused or damaged irrigation projects along the Limpopo valley, most notably the Lower Limpopo Irrigation System[6]; these same firms participate in the management of such operations ("Chinese government to fund repairs on two irrigation systems in Mozambique," 2012; "Irrigation management company in Mozambique seeks Chinese partner," 2012). Agricultural production on Chinese managed irrigation projects does appear to be well above production levels elsewhere in the country. The vast majority of this increased rice production appears to be destined for Mozambican consumers. China has yet to lower trade barriers against Mozambican rice, so it is certain that increased yields are currently not landing of Chinese plates.

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[6] This project had been rendered inoperable for the last 30 years as the result of damages received during the Mozambican Civil War.

Furthermore, though many of these projects do include a commercial agricultural element, often owned by a Chinese firm or through a partnership, in many cases at least one third of all land irrigated by such a scheme is controlled and farmed by smallhold farmers. Additionally, farming techniques are passed from Chinese agronomists and experts to such farmers, with the intent of increasing yield ("Mozambique: Chinese technology to increase rice yields," 2011).

VI. c. Consequences for Mozambican food independence

While in the case of Zimbabwe the production of tobacco has necessarily lead to decreases in other agricultural goods, the case of Mozambique is far less clear.

As suggested previously, agricultural yields have up to tripled on Chinese managed agricultural schemes. Much of this is attributable to proper utilization of irrigation networks, though Chinese agricultural technicians have also introduced nominal mechanization and new crop varieties ("Mozambique: Chinese technology to increase rice yields," 2011). Mozambican farmers utilizing such methods appear to be achieving similar results, though it is difficult to tell exactly how many acres are being cultivated in this more intensive manner.

Similarly, total national rice yields have steadily increased since the early 2000s, with an average hectare producing around 6.5 tons today (up from below 6). However, consumption has skyrocketed during this same period[7] (*Rice in Mozambique,* 2013). And, while large farms are increasingly active in the domestic production of rice, the vast majority of rice is still produced by small hold farmers and destined for these same

[7] Consumption more than doubled between 2000 and 2007.

farmers' tables. It is on this point that the causal argument of more rice production leading necessarily to better food security breaks down. While the Gaza Province government has up until this point ensured that smallhold farmers are represented in these irrigation schemes, it is difficult to determine what percentage of the farming community in a given area has access to these projects. Additionally, while the Mozambican government moves to scale up production on existing irrigation schemes, it also has sought to build new projects; there is very little information on the sorts of lands that are being developed.

As a result, the most significant result of large irrigation schemes, especially new schemes, is that they have the potential to displace existing smallholder farmers or interrupt livelihood systems. Robertson and Pinstrup-Andersen have noted that land sales and concessions to foreign states directly impact micro- and macro-level food security for seller states; smallholder farmers with limited or no title-deeds to land they currently work are often dispossessed in these deals (Robertson & Pinstrup-Andersen, 2010). In the case of Mozambique, with up to 80% of the population participating in part in the agricultural sector, a rapid displacement of humans from more traditional or mixed livelihood systems could be disastrous if the country in unable to absorb the additional labor and people in order industries and cities.

Nonetheless, the Mozambique government has prioritized domestic rice production to end reliance on imports. The government has argued that increased rice production will lead to reduced food insecurity and gains in poverty reduction; the Gaza regional government has been very much at the head of this claim, arguing that systemic undernourishment may be eradicated through such schemes ("Mozambique:

Chinese technology to increase rice yields," 2011; *Rice in Mozambique,* 2013). It is also important to note that Mozambique is not exclusively interested in Chinese knowledge and capacity. Mozambican government programs like the IIAM have been empowered to build agricultural knowledge through partnerships with institutions in the United States and India (*Rice in Mozambique,* 2013; IIAM, 2013). The IIAM employs language that speaks to the notion of rice production as a significant step towards broader development in Mozambique. From their English language website, IIAM lists partnerships with the IRRI and states that their mission is to, in part, "support research in order to collaborate with the government and interested organizations engaged in the battle against hunger and poverty through the delivery of results that can be used to address specific problems affecting Mozambique's agricultural sector" (IIAM, 2013).

Departing from this rhetoric, the fact remains the Mozambique currently does not export rice. Any increases in domestic production necessarily increase the total amount of food available in Mozambique, at least for the mean time. That said, Mozambican rice imports have yet to decrease (*Rice in Mozambique,* 2013). This suggests that much of the gain might be on the part of small hold farmers; as the vast majority farmers do not sell any agricultural products, increased rice production could mean increased food for subsistence farmers, mitigating household undernourishment. Similarly, it could be that while average yields per hectare have increased, the total number of hectares currently devoted to rice production is so low as to make the gains inconsequential. Finally, it could be that claims of tripled production on pilot Chinese irrigation projects are inflated. This last is perhaps the least believable, as 10 tons per

hectare, while well above the international norm, is still below highly technical growing programs in Australia and China.

It seems safe to say that the current extent of Chinese intervention in Mozambique has not resulted in radical changes in Mozambican food independence on the national level (*Rice in Mozambique,* 2013). That is not to say that improvements or increased strain are impossible. Indeed, if the Mozambican state continues to prioritize rice production and China (as well as other states) participate in building capacity, then it is fully possible that the Mozambican state will become increasingly independent. However, it is also entirely possible that in time, the Mozambican state will turn away from such rhetoric, instead prioritizing commercial rice production for export. Such exports would likely go to neighboring SADC states, which import virtually all domestically consumed rice. This is especially true if South Africa continues its trend towards economic dominance in the region.

At this point, it would be worthwhile to quickly address the work of Loro Horta, as it was his work that initially piqued my interest in Mozambique as a case. Much has been made of Horta's research in Mozambique and indeed it is his work that provides the backbone for much fear mongering about China's interest in Mozambique. He argued that China was turning Mozambique into its own agricultural colony to meet rice demands at home (Horta, 2008). Brautigam alone and with the assitance of Ekman argued compellingly that Horta's "research" is best to be understood as part of the canon of inflammatory pseudo-academic literature that speaks primarily to Western fears of zero-sum-gamesmanship in engaging African states. That little of what Horta claimed could be confirmed by this author gives further credibility to this notion

(Brautigam & Ekman, 2012; Brautigam, 2012). I believe that their appraisal of the Mozambican-Chinese situation speaks to the truth of the matter. A close reading of Chinese business and state interactions with the Mozambican government and agricultural sector reveals a more complicated relationship (Brautigam & Ekman, 2012; Brautigam, 2012).

VII. Case Study Comparison

While a close reading of Mozambique and Zimbabwe is valuable in understanding the role that Chinese actors play in shaping each state's agricultural practices, such investigations cannot exist in a vacuum. By comparing cases, we are better able to understand what makes each case unique; similarly, we are empowered to find commonalities. Thus, it is only through placing cases in dialogue that we are able to speak to the significance of our research.

VII. a. National Agricultural Narrative

While the two cases are geographically very proximal, historical legacies and growing conditions have resulted in distinct agricultural systems (Roberts, 2011; Clarence-Smith, 1985; Nelson, 1984). Similarly, the trajectories of each agricultural system are dramatically different as is evident in my research. Since fast track land reform, Zimbabwean agricultural production has been increasingly reliant on small hold farmers. Mugabe's interest in redistributing land, regardless of the agricultural production consequences, is a testament to the political goals of that state in the late 20th century: small farmers would dominate agricultural production (Clemens & Moss, 2005). That the number of farmers licensed to grow tobacco grows every year is further proof of this fact ("Zimbabwe national flue cured statistics 1990-2013," 2013). This understanding of land is antithetical to notions about the role of market oriented agricultural production; Mugabe, in this case, was willing to slash production in order to ensure political standing or right the wrongs of colonialism (depending upon whom one asks). As a consequence, fast track land reform initially has resulted in a production model that prioritizes small hold farmers (Clemens & Moss, 2005). An overall decrease

in the early 2000s in domestic production coupled with remarkable currency instability and inflation forced small farmers to meet home consumption needs first; export sales crashed (Clemens & Moss, 2005).

This runs in sharp contrast to the way the Mozambican government characterizes the role of land and by extension agriculture. The Mozambican government argues that land has long been "underutilized," to the detriment of all Mozambicans ("Mozambique: Chinese technology to increase rice yields," 2011; *Rice in Mozambique,* 2013). Embedded in this language is the implication that production must be maximized for the good of the state; current production levels, the government argues, barely feed the farmers, not to mention the growing urban population. While the government has continued to reach out to small farmers, the state has paid greater attention to larger infrastructural and business schemes ("Mozambique: Chinese technology to increase rice yields," 2011; "Chinese entrepreneurs invest us$250m in Mozambique agriculture," 2012). None of these projects have been nationalized, however they speak to a national narrative of food independence. Even if little of the rice stays within Mozambican territory, increases in rice production fit the narrative of a developing and independent Mozambique. In short, the Mozambican government is increasingly rejecting the notion small hold driven agricultural production, instead seeking increase production to meet domestic demand.

VII. b. Role of the State

This distinction between small hold production and market-oriented production is important to note as it provides an understanding about how the government chooses to interact with the various international and local, public and private actors.

The fast track policy atomized and localized production and consumption of agricultural products. While production has rebounded and international markets increasingly source goods from Zimbabwe's fields, small farmers remain the drivers of agricultural trends. This decentralized production of crops for market still resides within a narrative of small hold farming.

The Zimbabwean government since the fast track land reform policy has been comparatively hands-off in regards to agriculture, in no small part due to other tremendous crises that have plagued the nation. While economic stability since 2009 has afforded the government an opportunity to reinvest itself in domestic agriculture, farmers still operate independently from government agencies. The only way that Zimbabwe even attempts to regulate the resurgent tobacco industry is through the requirement that all individuals who intend to sell tobacco internationally must register with the state, recognizing businesses who want to contract with farmers, and through nominal taxation (Shryock 2012; "Zimbabwe tobacco farmers hail support from Chinese firm," 2012).

In contrast, Mozambican government policy is directly bound to agricultural production trends. The large infrastructural projects and agribusiness firms (domestic and foreign) that are now present in Mozambique have been courted in large part by state and local governments ("Chinese government to fund repairs on two irrigation systems in Mozambique," 2012; "Irrigation management company in Mozambique seeks Chinese partner," 2012). State and local officials often reach out to international firms for management skills, training, and assistance on irrigation projects. The introduction of new strains of rice comes largely through partnerships between the

state and international agricultural firms. In short, the state mediates many of the interactions between private producers and international actors (e.g. Instituto de Investigação Agrária de Moçambique).

It is also important to address the role of the Chinese state at this point. Both Zimbabwe and Mozambique have strong bilateral relationships with the Chinese State. Indeed, much criticism has been leveled at China for providing materiel to Mugabe's regime. However, in neither Zimbabwe nor Mozambique was there any evidence of a national level Chinese agenda for agricultural "colonialism." The notion of a national Chinese rice colony in Mozambique as put forward by Horta is reductionist (Horta, 2008). Though partnerships have been developed between districts in China and Mozambique, there is no suggestion that such partnerships are necessarily part of a colonial agenda. Instead, it appears that such relationships exist primarily to allow the partners to facilitate private business relationships within these districts, functionally an extension of the Go Out Policy.

VII. c. Nature of the Crop

From virtually all perspectives tobacco is a vastly different crop than rice, especially given the context within each state. Tobacco has a long history in Zimbabwe, though domestic consumption of the crop is limited. Lauded for its high quality, Zimbabwean tobacco is a luxury commodity, one that Zimbabwe has a comparative advantage in producing (Weiner et al., 1985). International demand is high, and when compared to virtually all other crops in Zimbabwe, tobacco demands the highest price. That said, it has virtually no strategic value and may indeed cut into domestic food production. Indeed, there is little to suggest that Zimbabwean farmers have put more

total acres to work in the past several years, but instead have increased the total number of acres devoted to tobacco growth (Shryock, 2012). Additionally, tobacco is extremely resource intensive, leaching phosphorus, potassium, and nitrogen from the soil and often requiring massive chemical inputs (Shryock, 2012). Thus, tobacco is a dangerous choice from a food policy standpoint; currently in high demand internationally, but extremely demanding of soil resources and prone to boom and bust.

Rice plays a distinctly different role in Mozambique. Cultivation of rice is near synonymous with farming activity, though demand far outstrips production. Mozambique is well suited to rice production however there is a perception among the government and international observers that underproduction is systemic, largely due to current production models dependent on seasonal rainfall (*Rice in Mozambique,* 2013). The extremely large number of rice cultivars allows a specialization of crop to growing conditions; due to its significance as a staple, much attention has been paid on the part of the international agricultural community to develop new and novel strains of rice. Mozambican rice has never been lauded for its quality, though the crop is nonetheless understood to be a staple foodstuff within the country. As such, rice is perceived to be a strategically valuable crop that Mozambique is capable of producing, both for the domestic market and possibly for the international market (*Rice in Mozambique,* 2013).

VII. d. Role of Private Actors

In both Mozambique and Zimbabwe, greater attention must be paid to the role local private actors and international private actors serve in cultivation trends. As

suggested previously, the onus of agricultural production and export in Zimbabwe rests almost entirely on private actors. Independent farmers, responding to high prices and high demand in Zimbabwean tobacco auctions, doubled the value of tobacco exports between 2008 and 2012. As previously stated, it was Chinese buyers who dominated these auctions. Thus, the financial interaction was almost exclusively between private actors; Chinese buyers purchasing tobacco from Zimbabwean wholesalers and farmers (Shryock, 2012).

This upward trend in production will likely continue, though many farmers have commented that increases in production necessitate more capital investment. Wholesalers and farmers have called on Chinese and South African businesses to invest capital to afford continued growth; neither of these states maintains economic sanctions against Zimbabwe, allowing a comparatively free flow of capital (Shryock, 2012).

In the case of Mozambique, Chinese businesses typically work with state actors in drafting deals. Private Chinese firms are awarded contracts by the government to build irrigation projects. Chinese state sanctioned but independent researchers travel to teach at agricultural extension operations or work in Mozambican rice testing facilities. And increasingly, the Mozambican state has encouraged Mozambican farmers and agronomists to work alongside Chinese colleagues in order to learn cultivation and management methods to replicate elsewhere. Additionally, many small-scale farms are incorporated into irrigation schemes; some government-owned, Chinese-run schemes mandate that a certain number of acres be provided for small hold farmers ("Mozambique: Chinese technology to increase rice yields," 2011).

Furthermore, the vast majority of the agricultural product in Mozambique is still produced by small hold family farms. Thus, though the interaction has been to this point primarily between the Mozambican state and Chinese business interests, at some point Mozambican farmers will necessarily become involved in the equation or will be forced into other sectors of the economy (Nutrition country profiles summary: Mozambique, 2010).

VII. e. Role of the International Market

In both Zimbabwe and Mozambique, production is in part shaped by the state of the international marketplace. As has been stated previously, Zimbabwean tobacco is in very high demand internationally. As of yet, there has been no ceiling on the price for this commodity, so long as the quality of the tobacco remains constant. Agriculture is an industry in which Zimbabwe has a comparative advantage, to use the parlance of the economics community; while its mineral wealth continues to drive the economy, tobacco production alone is larger than the nations manufacturing sector. That the tobacco itself is unique allows the country to avoid competing with other tobacco producers internationally. Thus, high quality Zimbabwean tobacco exists in large part outside of the traditional tobacco market, short-circuiting tobacco's global commodity chain.

That farmers continue to pursue tobacco production suggests that the value of participation in this market outweigh the costs or that the costs have not yet been felt. Decreased production of maize on the farmstead is made up for in money earned through tobacco sales. Desire amongst farmers to scale up production is further

evidence of the way tobacco production figures into private farming goals (Shryock, 2012).

For an entirely different reason, rice production in Mozambique is a logical choice. Though increased production in Mozambique will do little to curtail the rise in international prices, such price hikes have nonetheless been felt by Mozambicans both rural and urban. As food security and food self-sufficiency are increasingly understood to be valuable assets for states, many states have increasingly sought to ensure that their domestic food supply is efficient. Questions remain about exactly where Mozambican rice will go, if indeed production reaches Chinese estimates. However, government commitment to domestic food security indicates that at the very least rice imports will be met or exceeded by production (*Rice in Mozambique,* 2013). Should staple commodity prices spike again the way they did several years ago prior to the Arab Spring, Mozambique would be better able to meet such a fluctuation.

Additionally, the state's economy relies very little on mineral exports, when compared with its Southern African neighbors. Though coal, aluminum, and titanium are abundant, such industries are remarkably undercapitalized and underdeveloped. By comparison, 80% of the workforce is already employed in the agricultural sector, and the growth of the industry requires comparatively little in the form of capital investment (*Rice in Mozambique,* 2013). In short, from a market standpoint, the agricultural sector is extremely inefficient yet and primed for growth ("Report No. 32416-MZ: Stimulating Smallholder Agricultural Growth," 2006).

VII. f. Nature of the Intervention

There is very little consistency between the two cases as to how Chinese actors modify agricultural production practices. Indeed, the variety of interactions in Sub-Saharan Africa between Chinese business and government actors and local and state actors on the continent is tremendous. From Chinese businesses' contracts in the DRC to acquire land for biomass petrol production for the Chinese market to those irrigation projects in Mozambique where Chinese firms are paid to manage and maintain the scheme, the nature of the "extraction" differs wildly ("China to increase biomass based power production" 2012; "Chinese government to fund repairs on two irrigation systems in Mozambique," 2012; "Irrigation management company in Mozambique seeks Chinese partner," 2012).

In the case of Zimbabwe, the entire interaction has been limited to a contracted cash exchange for a commodity, though nonetheless "extraction" has occurred and the agricultural system has changed. Chinese buyers sought out Zimbabwean tobacco, and in turn Zimbabwean farmers increasingly seek Chinese capital in order to scale up to meet demand. Thus, the scope of intervention has widened; it will be interesting to see in what ways Chinese businesses continue to invest in the Zimbabwean market, especially with increased South African participation.

Mozambique differs notably, wherein the object of extraction is primarily money. Without any promises of Mozambican rice landing on Chinese soil, Chinese firms have nonetheless chosen to manage agricultural projects and exchange knowledge. Thanks to the deep Chinese knowledge base on rice production (proven through extremely successful rice test plots in China), demand for this agricultural

knowledge is highly sought internationally ("Irrigation management company in Mozambique seeks Chinese partner," 2012). That firms can turn good profits in Mozambique while providing knowledge and management assistance is apparently the extent of the interaction.

VIII. Policy Recommendations and Conclusions

Policy Recommendations

From a policy standpoint, it seems there is little I can suggest to Chinese businesses insofar as they are doing everything in keeping with Go Out Policy philosophy. The Chinese State has shown a clear interest in cultivating business acumen in its firms. In Mozambique, Chinese businesses are capitalizing existing knowledge sets and technical skills to meet the needs of a state. In the case of Zimbabwe, domestic Chinese demand for cigarettes can be further capitalized through the introduction of higher value tobacco products.

Furthermore, it is not as if China is pursuing a vastly different business agenda in sub-Saharan Africa. US and EU businesses are involved in just as many moneymaking ventures on the continent. In short, so long as there are burgeoning marketplaces for global capital to invest in, companies will participate. From a business standpoint, Chinese firms are doing everything right.

However, policy recommendations for Zimbabwe and Mozambique are much more difficult to make. Take Zimbabwe, for example. On the one hand, the economy has collapsed and virtually the only industry that the vast majority of the population can participate in is the tobacco sector. Profits from tobacco farming are certainly more than all other crops. On the other hand, smallhold farmers are increasingly reliant on imported wheat and maize; this classic case of over-reliance on single commodities has been a recipe for disaster, and tobacco has proven to be an especially fickle crop. I argue that in many ways, the contract system has the potential to provide a space for better than average prices for tobacco. However, this is by no means a long-term fix. The

Zimbabwean economy will need to diversify and refocus its efforts on being a significant producer of grain if the state wishes to be free from the boom and bust cycles of an economy with 20% reliance on tobacco.

Similarly, it seems clear that Mozambique will have to be willing to refocus its efforts towards food self-sufficiency to ensure issues of food access and land tenure are addressed. Without proper regulation on the part of the government, there is risk that an industrial agricultural system could compromise the livelihoods of small hold farmers and leave the state in a worse position than it is currently, even if none of the rice produced is destined for the Chinese marketplace. While the diversification of an economy runs very much contrary to pervading notions of comparative advantage for developing states, such steps must be taken if Sub-Saharan African states are to be perceived as anything more than sites of extraction.

Conclusion

As I have demonstrated over the course of this text, Chinese activity in Sub-Saharan African agriculture is marked more by its inconsistencies from case to case than by its similarities. It may be initiated by partner states or businesses, reflect demand in China, or simply be a quick way to turn an easy profit. It may be encouraged by bilateral relationships between China and Sub-Saharan States or exist independently. Economic relationships may include the exchange of goods, labor, money, workers, and knowledge. These interactions, independent of one another and part of a larger web, are evidence of the integration of international marketplaces and fields. This is neo-colonialism and globalization.

As I have argued, this inconsistency is not in conflict with notions of China as one of many neo-colonial forces in Sub-Saharan Africa. Chinese businesses are currently engaged in deals that treat Africa as a site of extraction. Resources are removed from the continent each time Chinese buyers purchase Zimbabwean tobacco or South African wool. Money is extracted each time a Chinese firm is hired to manage a dam. These are valuable contracts, valuable resources, and valuable business opportunities, opportunities to which few globally active businesses would turn up their nose. We should not see Chinese businesses running irrigation schemes in Mozambique as unique, but de rigueur for globalization on the African continent. We must be willing to acknowledge that even simple business deals between willing buyers and sellers can have consequences for food security and economic stability.

This paper has sought to challenge the notion that Chinese interventions in Sub-Saharan Africa are synonymous 1) with land grabbing for Chinese agricultural production and 2) decreased food security. If we are to believe Horta and others, China's primary goal has always been the acquisition of Southern African farmland to feed the growing middle class. As it stands, such predictions are misleading or incorrect given my assessment of available data. It seems clear that there is no monolithic Chinese colonial agricultural enterprise. My work is part of a body of literature that has shown that a synchronicity of motivation (see: Hall, 2011; Brautigam & Ekman, 2012) is simply not a reality in Chinese business and government today, so dominated as it is by the language and ethos of the Go Out policy. In short, China's priority is not to stake claim to the fertile Limpopo for rice nor is it to seize the high veldt for maize. Chinese priorities in sub-Saharan Africa remain more overtly capitalist in nature.

But the implications of Chinese activity in sub-Saharan Africa on state food security remain less clear. As has been shown consistently in this paper, the Chinese state stands to secure very little food for its people so long as activity in sub-Saharan Africa continues to take place the way it does today. Chinese agricultural programs are primarily oriented to turn profits, not to extract rice. Indeed, the increasingly liberality on the part of the Chinese state in regards to agriculture is a testament to government buy-in to the international agricultural marketplace. In short, neither the Chinese state nor Chinese businesses seem to have much interest in setting up farming colonies in Africa. There is little to suggest that Africa will become China's breadbasket anytime soon.

However, the security of African states' food supplies seems more tenuous. As I have shown, the conversion of farmland to tobacco production leaves the Zimbabwean economy in a considerably more vulnerable position than in the past. Production of grain is down, and ever more farmers seek to make money through the tobacco industry. Though it is difficult to predict how Zimbabwean farmers will deal with a bad crop or a bust in the tobacco market, it stands to reason that such a collapse to decimate the Zimbabwean economy on the whole and result in rampant inaccessibility to staples for farmers.

The story of Mozambique is more complicated. On the one hand, government interest in food independence has the potential to turn Mozambique into something of a regional food policy miracle. Dramatic increases in rice production have the potential to improve the livelihoods of small farmers, supposing these production methods are

made available to all farmers. Malnutrition could drop dramatically, and the state could become a net grain exporter.

However, the reality may be bleaker. The fact that small farmers are often blamed for underproduction is problematic; if the solution is to encourage larger farms to purchase small hold farmers' land, huge sections of the population could be left unemployed. Additionally, the creation of new irrigation projects may come at the expense of currently "fallow" land, which in reality is often grazing land or brush land vital for firewood. This has the potential to unbalance existing livelihood systems, all in the name of progress and development.

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